

3. (Unchanged) A sound capture device in accordance with claim 2, further comprising an internal conductor connected between an electrical signal output of the transducer and an amplifier input of the amplifier, the internal conductor having an internal conductor length less than a signal conductor length of the signal conductor.

4. (Unchanged) A sound capture device in accordance with claim 3, wherein the internal conductor length is less than one tenth of the signal conductor length.

5. (Unchanged) A sound capture device in accordance with claim 4, wherein the internal conductor length is less than one one-hundredth of the signal conductor length.

6. (Unchanged) A sound capture device in accordance with claim 2, wherein the amplifier comprises a plurality of amplification stages having power gains greater than one.

7. (Unchanged) A sound capture device in accordance with claim 6, wherein the power gains are greater than 10 dB.

8. (Unchanged) A sound capture device in accordance with claim 7, wherein the power gains are greater than 15 dB.

9. (Unchanged) A sound capture device in accordance with claim 8, wherein the plurality of amplification stages comprise exactly two amplification stages.

10. (Unchanged) A sound capture device in accordance with claim 1, further comprising a transmission interface for housing the supply conductor and the signal conductor.

11. (Unchanged) A sound capture device in accordance with claim 10, wherein the transmission interface comprises a plurality of transmission interface cables, the signal conductor housed within a first interface cable and the supply conductor housed within a second interface cable.

12. (Unchanged) A sound capture device in accordance with claim 11, wherein the transmission interface comprises:

a supply interface cable comprising a positive supply conductor, a negative supply conductor and a common supply conductor; and

a signal interface cable comprising a first signal conductor, a second signal conductor, and a common signal conductor.

13. (Unchanged) A sound capture device in accordance with claim 12, wherein the common signal conductor is a shield encompassing the first signal conductor and the second signal conductor.

14. (Unchanged) A sound capture device in accordance with claim 10, wherein the transmission interface, the supply conductor and the signal conductor form a single transmission interface cable.

15. (Unchanged) A sound capture device in accordance with claim 1, further comprising:

another transducer producing another electrical signal in response to the sound pressure wave;

another signal conductor for conveying the another electrical signal.

16. (Unchanged) A sound capture device in accordance with claim 15, further comprising:

another amplifier connected between the another transducer and the another signal conductor, the another signal conductor conveying another amplified electrical signal produced by the another amplifier in response to the another electrical signal.

17. (Unchanged) A sound capture device in accordance with claim 16, wherein the another transducer is separated from the transducer at a separation distance in accordance with sound reception at human ears on a human head facing a sound source.

18. (Unchanged) A sound capture device in accordance with claim 17, wherein the separation distance is between 10 and 14 inches.

19. (Unchanged) A sound capture device in accordance with claim 18, wherein the separation distance is between 11 and 13 inches.

20. (Unchanged) A sound capture device in accordance with claim 19, wherein the separation distance is approximately 12 inches.

21. (Unchanged) A sound capture device in accordance with claim 17, wherein the transducers are positioned to form an angle between an axis of the transducer and an axis of the another transducer between 15 and 45 degrees.

22. (Unchanged) A sound capture device in accordance with claim 21, wherein the angle is between 25 and 35 degrees.

23. (Unchanged) A sound capture device in accordance with claim 22, wherein the angle is approximately 30 degrees.

24. (Unchanged) A sound capture device comprising:  
a transducer for producing an electrical signal in response to a sound pressure wave; and  
an amplifier for amplifying the electrical signal to produce an amplified electrical signal, the amplifier co-located with the transducer and comprising a plurality of amplification stages having power gains greater than one.

25. (Unchanged) A sound capture device in accordance with claim 24, further comprising:

a power input configured to connect to a supply conductor of a transmission interface; and  
a signal output configured to connect to a signal conductor of the transmission interface.

26. (Unchanged) A sound capture device in accordance with claim 25, further comprising an internal signal conductor connected between an electrical signal output of the transducer and an amplifier input of the amplifier, the internal conductor having a internal conductor length less than a signal conductor length of the signal conductor.

27. (Unchanged) A sound capture device in accordance with claim 26, wherein the internal conductor length is less than one tenth of the signal conductor length.

28. (Unchanged) A sound capture device in accordance with claim 27, wherein the internal conductor length is less than one one-hundredth of the signal conductor length.

29. (Unchanged) A sound capture device in accordance with claim 24, wherein the power gains are greater than 10 dB.

30. (Unchanged) A sound capture device in accordance with claim 29, wherein the power gains are greater than 15 dB.

31. (Unchanged) A sound capture device in accordance with claim 30, wherein the plurality of amplification stages comprise exactly two amplification stages.

32. (Unchanged) A sound capture device in accordance with claim 25, wherein the transmission interface, the supply conductor and the signal conductor form a transmission interface cable.

33. (Unchanged) A sound capture device in accordance with claim 32, wherein the transmission interface comprises a plurality of transmission interface cables, the signal conductor housed within a first interface cable and the supply conductor housed within a second interface cable.

34. (Unchanged) A sound capture device in accordance with claim 33, wherein the transmission interface comprises:

a supply interface cable comprising a positive supply conductor, a negative supply conductor and a common supply conductor; and

a signal interface cable comprising a first signal conductor, a second signal conductor, and a common signal conductor.

35. (Unchanged) A sound capture device in accordance with claim 34, wherein the common signal conductor is a shield encompassing the first signal conductor and the second signal conductor.

36. (Unchanged) A sound capture device in accordance with claim 24, further comprising:

another transducer producing another electrical signal in response to the sound pressure wave; and

another signal output configured to connect to another signal conductor for conveying the another electrical signal.

37. (Unchanged) A sound capture device in accordance with claim 36, further comprising another amplifier connected between the another transducer and the another signal output.

38. (Unchanged) A sound capture device in accordance with claim 37, wherein the another transducer is separated from the transducer at a separation distance in accordance with sound reception at human ears on a human head facing a sound source.

39. (Unchanged) A sound capture device in accordance with claim 38, wherein the separation distance is between 10 and 14 inches.

40. (Unchanged) A sound capture device in accordance with claim 39, wherein the separation distance is between 11 and 13 inches.

41. (Unchanged) A sound capture device in accordance with claim 40, wherein the separation distance is approximately 12 inches.

42. (Unchanged) A sound capture device in accordance with claim 38, wherein the transducers are positioned to form an angle between an axis of the transducer and an axis of the another transducer between 15 and 45 degrees.

43. (Unchanged) A sound capture device in accordance with claim 42, wherein the angle is between 25 and 35 degrees.

44. (Unchanged) A sound capture device in accordance with claim 43, wherein the angle is approximately 30 degrees.

45. (Unchanged) A sound capture device comprising:  
a transducer for producing an electrical signal at an electrical signal output in response to a sound pressure wave received at a transducer sound input;  
an amplifier comprising a plurality of amplification stages having power gains greater than one and an amplifier input connected to the electrical signal output through an internal signal conductor, the amplifier producing an amplified electrical signal at an amplifier output in response to the electrical signal;  
a supply interface cable comprising at least one supply conductor for conveying electrical power to the transducer and to the amplifier; and  
a signal interface cable comprising at signal conductor in electrical communication with the amplifier output, the internal signal conductor having an internal conductor length less than a signal conductor length of the signal conductor.
46. (Unchanged) A sound capture device in accordance with claim 45, wherein the internal conductor length is less than one tenth of the signal conductor length.
47. (Unchanged) A sound capture device in accordance with claim 46, wherein the internal conductor length is less than one one-hundredth of the signal conductor length.
48. (Unchanged) A sound capture device in accordance with claim 45, wherein the power gains are greater than 10 dB.
49. (Unchanged) A sound capture device in accordance with claim 48, wherein the power gains are greater than 15 dB.
50. (Unchanged) A sound capture device in accordance with claim 45, wherein the plurality of amplification stages comprise exactly two amplification stages.
51. (Unchanged) A sound capture device comprising:  
a first transducer; and  
a second transducer positioned at a separation distance from the first transducer, the separation distance in accordance with sound reception at human ears on a human head facing a sound source.

52. (Unchanged) A sound capture device in accordance with claim 51, wherein the separation distance is between 10 and 14 inches.

53. (Unchanged) A sound capture device in accordance with claim 52, wherein the separation distance is between 11 and 13 inches.

54. (Unchanged) A sound capture device in accordance with claim 53, wherein the separation distance is approximately 12 inches.

55. (Unchanged) A sound capture device in accordance with claim 51, wherein the transducers are positioned to form an angle between an axis of the first transducer and an axis of the second transducer between 15 and 45 degrees.

56. (Unchanged) A sound capture device in accordance with claim 55, wherein the angle is between 25 and 35 degrees.

57. (Unchanged) A sound capture device in accordance with claim 56, wherein the angle is approximately 30 degrees.

58. (Unchanged) A method comprising:  
receiving electrical power at a transducer through at least one supply conductor;  
producing an electrical signal in response to a received sound signal;  
transmitting the electrical signal through an internal signal conductor to an amplifier;   
amplifying the electrical signal to produce an amplified electrical signal; and  
transmitting the amplified electrical signal through a signal conductor.

59. (Unchanged) A method in accordance with claim 58, wherein the amplifying comprises:  
amplifying the electrical signal through a plurality of amplification stages.

60. (Unchanged) A method in accordance with claim 59, wherein the amplifying comprises:

amplifying the electrical signal to a first amplitude to form a partially amplified signal; and

amplifying the partially amplified signal to a second amplitude to form the amplified electrical signal.

61. (Unchanged) A method in accordance with claim 58, wherein the amplifying comprises:

amplifying the electrical signal to form the amplified electrical signal having a line level voltage.

62. (Unchanged) A method in accordance with claim 61, wherein the amplifying comprises:

amplifying the electrical signal to form the amplified electrical signal having a root mean square (RMS) voltage level between 2 and 6 volts.

63. (Unchanged) A method in accordance with claim 58, wherein the transmitting the amplified electrical signal comprises transmitting the amplified electrical signal through the signal conductor having a signal conductor length greater than an internal conductor length of the internal conductor.

Please add the following new claims:

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64. (New) A sound capture device comprising:  
a transducer for converting a sound wave into an electrical signal;  
a supply conductor and a signal conductor housed in separate cables;  
a low-noise power supply for activating the transducer, said power supply providing between 2 to 10 volts root mean square through a resistor connected to the transducer output, the resistor having a resistance between 4.8k ohms and 5.2k ohms;  
said transducer producing an output signal connected to at least one amplifying circuit,  
said amplifying circuit being adjustable for providing between 10 to 40 db of gain;  
and  
said supply conductor is connected between said transducer and said amplifying circuit.

65. (New) The sound capture device of claim 64 wherein the resistance is between 4.9k ohms and 5.1k ohms

66. (New) The sound capture device of claim 65 wherein the resistance is between 4.95k ohms and 5.05k ohms.

67. (New) The sound capture device of claim 66 wherein the resistance is between 4.98k ohms and 5.02k ohms.

68. (New) The sound capture device of claim 67 wherein the resistance is 4.99k ohms.  
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69. (New) The sound capture device of claim 64 wherein the voltage is between 4 and 8 volts root mean square.

70. (New) The sound capture device of claim 69 wherein the voltage is between 5 and 7 root mean square.

71. (New) The sound capture device of claim 70 wherein the voltage is 6 volts root mean square.

72. (New) The sound capture device of claim 64 wherein the amplifier has a power gain between 10 and 40 db.

73. (New) The sound capture device of claim 64 wherein said transducer is a condenser transducer.

74. (New) The sound capture device of claim 64 wherein a buffer resistor connects said electrical signal output from said amplifying circuit to protect said sound capture device against a short or defect in the output of said sound capture device and make said sound capture device more stable, said electrical signal from said buffer resistor capable of interfacing with a processor.

75. (New) The sound capture device of claim 64 wherein said amplifying circuit is

made up of at least two stages, each stage being adjustable for providing between 15 and 20 db of gain.

76. (New) The sound capture device of claim 64 wherein:

a second transducer is provided at a distance of between 10 and 14 inches of said a transducer;

a second supply conductor and a second signal conductor housed in separate cables; said power supply providing between 2 to 10 volts root mean square through a resistor connected to the said second transducer output, the resistor having a resistance between 4.8k ohms and 5.2k ohms;

said second transducer producing an output signal connected to a second amplifying circuit,

said second amplifying circuit being adjustable for providing between 10 to 40 db of gain and;

said second supply conductor is connected between said second transducer and said second amplifying circuit.

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77. (New) The sound capture device of claim 76 wherein the resistance is between 4.9k ohms and 5.1k ohms.

78. (New) The sound capture device of claim 77 wherein the resistance is between 4.95k ohms and 5.05k ohms.

79. (New) The sound capture device of claim 78 wherein the resistance is between 4.98k ohms and 5.02k ohms.

80. (New) The sound capture device of claim 79 wherein the resistance is 4.99k ohms.

81. (New) The sound capture device of claim 80 wherein the resistance is between 4.9k ohms and 5.1k ohms.

82. (New) The sound capture device of claim 76 wherein the voltage is between 4 and 8 volts root mean square.

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83. (New) The sound capture device of claim 82 wherein the voltage is between 5 and 7 root mean square.

84. (New) The sound capture device of claim 83 wherein the voltage is 6 volts root mean square.

85. (New) The sound capture device of claim 76 wherein the amplifier has a power gain between 10 and 40 db.

86. (New) The sound capture device of claim 75 wherein:

a second buffer resistor connects said electrical signal output from said second amplifying circuit to protect said sound capture device against a short or defect in the output of said sound capture device and make said sound capture device more stable, said electrical signal from said second buffer resistor capable of interfacing with a processor.

87. (New) The sound capture device of claim 75 wherein:

each said amplifying circuit is made up of at least two stages, each stage being adjustable for providing between 15 and 20 db of gain.

88. (New) The sound capture device of claim 64 wherein:

said supply conductor and said signal conductor are each made of one of a pure silver or a pure copper core 30 gauge with a Teflon tubing.

89. (New) The sound capture device of claim 75 wherein:

said first and second supply conductors and said first and second signal conductors are each made of one of a pure silver or a pure copper core 30 gauge with a Teflon tubing.

90. (New) The sound capture device of claim 75 wherein:

said transducers are separated by one of a dampening tube or bar using one of silicon sand, a combination of silicon sand and lead, or external dampening bars to reduce resonance of said tube or bar for replicating the human hearing experience in a recording.

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91. (New) The sound capture device of claims 64 or 75 wherein:  
said power supply is one of a plus-minus balanced supply or a single-ended supply.
  92. (New) The sound capture device of claim 64 wherein:  
said output of said transducer is connected to a circuit comprising one or more capacitors for filtering any DC from getting into the amplifying circuit and sets the cutoff frequency on the low-end.
  93. (New) The sound capture device of claim 64 wherein:  
said one or more capacitors comprises polypropylene capacitors with one of a polystyrene or polypropylene capacitor bypassing said one or more polypropylene capacitors.
  94. (New) The sound capture device of claim 64 wherein:  
said amplifying circuit includes a 20K resistor that goes to ground for filtering any DC from getting into said amplifying circuit and sets the cutoff frequency on the low-end.
  95. (New) The sound capture device of claim 94 wherein:  
said amplifying circuit is made up of at least two stages, each stage being adjustable for providing between 15 and 20 db of gain, each said stage having its own independent gain settings for various input levels.
  96. (New) The sound capture device of claim 75 wherein:  
said first amplifying circuit includes a 20K resistor that goes to ground for filtering any DC from getting into the amplifying circuit and sets the cutoff frequency on the low-end.
  97. (New) The sound capture device of claim 95 wherein:  
said amplifying circuit is made up of at least two stages, each stage being adjustable for providing between 15 and 20 db of gain, each said stage having its own independent gain settings for various input levels.
  98. (New) A telephone comprising:  
a telephone handset, said telephone handset including a sound capture device comprising:

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a transducer for converting a sound wave into an electrical signal;  
a supply conductor and a signal conductor housed in separate cables;  
a low-noise power supply for activating the transducer, said power supply  
providing between 2 to 10 volts root mean square through a resistor connected to said  
transducer, said resistor having a resistance between 4.8K ohms and 5.2k ohms;  
said transducer producing an output signal connected to at least one amplifying  
circuit, said amplifying circuit being adjustable for providing between 10 to 40 db of gain; and  
said supply conductor is connected between said transducer and said amplifying circuit.

99. (New) The telephone as set forth in claim 98 further including a buffer resistor  
connecting said electrical signal output from said amplifying circuit to protect said sound capture  
device against a short or defect in the output of said sound capture device and make said sound  
capture device more stable, said electrical signal from said buffer resistor capable of interfacing  
with a processor.

100. (New) A speakerphone comprising:  
a speakerphone, said speakerphone including a sound capture device  
comprising:  
a transducer for converting a sound wave into an electrical signal;  
a supply conductor and a signal conductor housed in separate cables;  
a low-noise power supply for activating the transducer, said power supply  
providing between 2 to 10 volts root mean square through a resistor connected to said  
transducer, said resistor having a resistance between 4.8K ohms and 5.2k ohms;  
said transducer producing an output signal connected to at least one amplifying  
circuit, said amplifying circuit being adjustable for providing between 10 to 40 db of gain; and  
said supply conductor is connected between said transducer and said amplifying  
circuit.

101. (New) A speakerphone as set forth in claim 100 including a buffer resistor  
connecting said electrical signal output from said amplifying circuit to protect said sound capture  
device against a short or defect in the output of said sound capture device and make said sound  
capture device more stable, said electrical signal from said buffer resistor capable of interfacing  
with a processor.

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102. (New) An electronic system comprising:

one of a telephone, a speakerphone, a teleconferencing system, a cell phone, a video camera, a video recorder, a film camera, a video conferencing system, a surveillance system, a security system, a camera, a digital camera, a motion picture system, a television, a telematics system, a computer, a personal digital assistant, an aircraft command and control system, a recording medium, a minidisk burner, a CD burner, an analog tape recorder, a DAT recorder, a DVD burner, an audio recorder, an audio playback system, a stereo music system, a voice recognition system, a signal processing system, a software modeling system, a signal processing software system, a hearing aid system, a home automation system, and a sound capture device comprising:

a transducer for converting a sound wave into an electrical signal;

a supply conductor and a signal conductor housed in separate cables;

a low-noise power supply for activating the transducer, said power supply

providing between 2 to 10 volts root mean square through a resistor connected to said transducer, said resistor having a resistance between 4.8K ohms and 5.2k ohms;

said transducer producing an output signal connected to at least one amplifying circuit, said amplifying circuit being adjustable for providing between 10 to 40 db of gain; and

said supply conductor is connected between said transducer and said amplifying circuit;

a buffer resistor connecting said electrical signal from said amplifying circuit to protect said sound capture device against a short or defect in the output of said sound capture device and make said sound capture device more stable, said electrical signal from said buffer resistor capable of interfacing with a processor.

103. (New) The sound capture device of claim 64 wherein:

said power supply provides between 2 to 8 volts root mean square.

104. (New) The sound capture device of claim 75 wherein:

said power supply provides between 2 to 8 volts root mean square.

105. (New) The sound capture device of claim 64 wherein:

said power supply provides between 2 to 6 volts root mean square.

106. (New) The sound capture device of claim 75 wherein:

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- 107. (New) The sound capture device of claim 64 wherein:  
said power supply provides between 4 to 6 volts root mean square.
  - 108. (New) The sound capture device of claim 75 wherein:  
said power supply provides between 4 to 6 volts root mean square.
  - 109. (New) The sound capture device of claim 64 wherein:  
said power supply provides between 5 to 6 volts root mean square.
  - 110. (New) The sound capture device of claim 75 wherein:  
said power supply provides between 5 to 6 volts root mean square.
  - 111. (New) The sound capture device of claim 64 wherein:  
said power supply provides exactly 5 volts root mean square.
  - 112. (New) The sound capture device of claim 64 wherein:  
said resistor is in the range of 2K to 10K ohms.
  - 113. (New) The sound capture device of claim 75 wherein:  
said resistor is in the range of 2K to 10K ohms.
  - 114. (New) The sound capture device of claim 64 wherein:  
said resistor is in the range of 2K to 8K ohms.
  - 115. (New) The sound capture device of claim 75 wherein:  
said resistor is in the range of 2K to 8K ohms.
  - 116. (New) The sound capture device of claim 64 wherein:  
said resistor is in the range of 4K to 6K ohms.
  - 117. (New) The sound capture device of claim 75 wherein:  
said resistor is in the range of 4K to 6K ohms.

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118. (New) The sound capture device of claim 64 wherein:  
said resistor is in the range of 4.97 K to 5.03K ohms.

119. (New) The sound capture device of claim 75 wherein:  
said resistor is in the range of 4.97 K to 5.03K ohms.

120. (New) The sound capture device of claim 64 wherein:  
said resistor is exactly 4.99 K ohms.

121. (New) The sound capture device of claim 67 wherein:  
said resistor is exactly 4.99 K ohms.

122. (New) A method of capturing sound comprising the steps of:  
converting a sound wave into an electrical signal in a transducer;  
carrying said signal on a supply conductor and a signal conductor housed in  
separate cables;

supplying low-noise power for activating said transducer, said power being  
between 2 to 10 volts root mean square through a resistor connected to said transducer, said  
resistor having a resistance between 4.8k ohms and 5.2k ohms; and

amplifying said electrical signal output on said supply conductor from said  
transducer, said amplifying providing between 10 to 40 db of gain.

123. (New) The method as set forth in claim 122 wherein an additional step  
comprises:

buffering said electrical signal output after said amplifying to protect said sound  
capture device against a short or defect in the output of said sound capture device and make  
said sound capture device more stable, said electrical signal output from said buffering capable  
of interfacing with a processor.

124. (New) The method of claim 122 wherein:  
said amplifying is performed in at least two stages, each stage providing between  
15 to 20 db of gain.

125. (New) The method of capturing sound comprising the steps of:  
converting a sound wave into an electrical signal in a pair of transducers, spaced  
apart between 10 and 14 inches;  
carrying said signals from each transducer on a supply conductor and a signal  
conductor housed in separate cables;  
supplying low-noise power for activating each of said transducers, said power  
being between 2 to 10 volts root mean square through a resistor connected to said transducer,  
said resistor having a resistance between 4.8k ohms and 5.2k ohms; and  
amplifying said electrical signal output on each said supply conductor from each  
of said transducers, said amplifying providing between 10 to 40 db of gain.

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126. (New) The method as set forth in claim 124 wherein an additional step  
comprises:

buffering said electrical signal output after said amplifying to protect said sound  
capture device against a short or defect in the output of said sound capture device and make  
said sound capture device more stable, said electrical signal output from said buffering capable  
of interfacing with a processor.

127. (New) The method of claim 124 wherein:  
said amplifying is performed in at least two stages for each of said electrical  
signal outputs from each of said supply conductors from each of said transducers, each stage  
providing between 15 to 20 db of gain.

128. (New) A sound capture apparatus comprising:  
a transducer for producing, in response to a sound wave, an electrical signal at a  
transducer output when receiving a power signal at the transducer output;  
a resistor connected to the transducer output and for receiving a voltage between  
2 and 10 volts root mean square (RMS) from a power supply to form the power signal at the  
transducer output, the resistor having a resistance between 4.8K ohms and 5.2K ohms;  
an amplifier connected to the transducer output for amplifying the electrical signal  
to produce an amplified electrical signal at an amplifier output.

129. (New) A sound capture apparatus in accordance with claim 128, wherein the  
resistance is between 4.9K ohms and 5.1K ohms.

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130. (New) A sound capture apparatus in accordance with claim 129, wherein the resistance is between 4.95K ohms and 5.05K ohms.

131. (New) A sound capture apparatus in accordance with claim 130, wherein the resistance is between 4.98K ohms and 5.02K ohms.

132. (New) A sound capture apparatus in accordance with claim 131, wherein the resistance is 4.99K ohms.

133. (New) A sound capture apparatus in accordance with claim 132, wherein the resistance is between 4.9K ohms and 5.1K ohms.

134. (New) A sound capture apparatus in accordance with claim 128, wherein the voltage is between 4 and 8 volts root mean square (RMS).

135. (New) A sound capture apparatus in accordance with claim 134, wherein the voltage is between 5 and 7 volts root mean square (RMS).

136. (New) A sound capture apparatus in accordance with claim 135, wherein the voltage is 6 volts root mean square (RMS).

137. (New) A sound capture apparatus in accordance with claim 128, wherein the amplifier has a power gain between 10 to 40 dB.

138. (New) A sound capture apparatus in accordance with claim 128, wherein the resistor is for connecting to the power supply through a conductor isolated from the amplifier output.

139. (New) A sound capture apparatus comprising:  
a transducer for producing, in response to a sound wave, an electrical signal at a transducer output when receiving a power signal at the transducer output;  
a resistor connected to the transducer output and for receiving a voltage between 5 and 7 volts root mean square (RMS) from a power supply through a conductor to form the

power signal at the transducer output, the resistor having a resistance between 4.9K ohms and 5.1K ohms;

an amplifier connected to the transducer output for amplifying the electrical signal to produce an amplified electrical signal at an amplifier output isolated from the conductor.

140. (New) A sound capture apparatus comprising:

a transducer for producing, at a transducer output, an analog electrical signal in response to a sound wave;

a resistor connected to the transducer output and for receiving a voltage between 2 and 10 volts root mean square (RMS) from a power supply to form the power signal at the transducer output, the resistor having a resistance between 4.8K ohms and 5.2K ohms;

an analog to digital converter (A/D converter) connected to the transducer output for converting the analog electrical signal into a digital electrical signal at a A/D converter output.

141. (New) A sound capture apparatus in accordance with claim 140, wherein the resistance is between 4.9K ohms and 5.1K ohms.

142. (New) A sound capture apparatus in accordance with claim 141, wherein the resistance is between 4.95K ohms and 5.05K ohms.

143. (New) A sound capture apparatus in accordance with claim 142, wherein the resistance is between 4.98K ohms and 5.02K ohms.

144. (New) A sound capture apparatus in accordance with claim 143, wherein the resistance is 4.99K ohms.

145. (New) A sound capture apparatus in accordance with claim 144, wherein the resistance is between 4.9K ohms and 5.1K ohms.

146. (New) A sound capture apparatus in accordance with claim 140, wherein the voltage is between 4 and 8 volts root mean square (RMS).

147. (New) A sound capture apparatus in accordance with claim 146, wherein the voltage is between 5 and 7 volts root mean square (RMS).

148. (New) A sound capture apparatus in accordance with claim 147, wherein the voltage is 6 volts root mean square (RMS).

149. (New) A sound capture apparatus in accordance with claim 140, wherein the power supply is connected to the resistor through a conductor isolated from the A/D converter output.

150. (New) A sound capture apparatus in accordance with claim 140, wherein the power supply is connected to the resistor through a conductor isolated from a power input of the A/D converter.

151. (New) A sound capture apparatus in accordance with claim 140, further comprising:

a digital signal processor connected to the A/D converter output for producing a processed digital signal at a digital signal processor output.

152. (New) A sound capture apparatus in accordance with claim 151, wherein the power supply is connected to the resistor through a conductor isolated from a power input of the A/D converter and isolated from the digital signal processor output.

153. (New) A sound capture apparatus comprising:

a transducer for producing, at a transducer output, an analog electrical signal in response to a sound wave;

a resistor connected to the transducer output and for receiving a voltage between 5 and 7 volts root mean square (RMS) from a power supply through a conductor to form the power signal at the transducer output, the resistor having a resistance between 4.9K ohms and 5.1K ohms;

an analog to digital converter (A/D converter) connected to the transducer output and for converting the analog electrical signal into a digital electrical signal at a A/D converter output isolated from a A/D converter power input and isolated from the conductor.